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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
JUEDES, AMY E	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/781,843	TEI, MUNETETSU	
	Examiner	Art Unit	
	Amy E. Juedes, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *55-92* is/are pending in the application.

4a) Of the above claim(s) *81-92* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *55-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and remarks, filed 6/7/06, are acknowledged.

Claims 1-54 have been cancelled
Claims 55-92 have been added
Claims 55-92 are pending.

Claims 81-92 are withdrawn from consideration as being drawn to a non-elected invention.

Claims 55-80 are under examination.

2. The rejection of the claims under 35 U.S.C. 112 second paragraph, and 112 first paragraph for lack of written description for "galenical extracts" is withdrawn in view of Applicant's amendment.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 55-80 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, the specification provides insufficient guidance to make the invention as broadly claimed, and also provides insufficient evidence that the claimed invention could function as an antitumor/antiviral medication.

As set forth previously, The specification disclosure is insufficient to enable one skilled in the art to make and use the invention as claimed without an undue amount of experimentation. Undue experimentation must be considered in light of factors including: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill in the art, the level of predictability of the art, the amount of direction provided by the inventor, the existence of working examples, and the quantity of experimentation needed to make or use the invention, *in re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988).

In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) states, "The

amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art." The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling" (MPEP 2164.03). The MPEP further states that physiological activity can be considered inherently unpredictable. With these teachings in mind, an enabling disclosure, commensurate in scope with the breadth of the claimed invention, is required.

With regards to the instant claims, the specification provides insufficient guidance to enable claims drawn to the antitumor/antiviral medication as broadly claimed. Note that a product claimed as an antitumor/antiviral medication must be enabled as a medication that is useful for treating cancer and viral infections. The medication of the instant application comprises lymphocytes that have been induced to express heat shock proteins by heating and/or culturing with galenical extracts. A "galenical extract" might encompass various herbal remedies such as ginseng, chamomile, or garlic. Additionally, the process by which said "extracts" are made might comprise water, alcohol, or oil extraction, which would "extract" different compounds. For example, reserpine, the active ingredient of *Rauwolfia serpentine* is not water soluble (see Report on Carcinogens, 11th Edition). Therefore, it is apparent that the process of producing the lymphocytes encompasses culturing with reagents that do not have a known ability to induce heat shock proteins (for example, garlic or water extracts of *Rauwolfia serpentine*). Thus, one of skill in the art is not enabled to make the invention as broadly claimed.

Furthermore, it is known in the art that both heating and reserpine treatment results in decreased functional capacity of lymphocytes, as measured by reduced ability to proliferate (see Kamwanja, table 2, and Mekori, Fig. 1). It is also well known in the art that a main effector mechanism in the control of tumors and viral infections are cytotoxic T lymphocytes (see Ochsenbein, pg. 1043, and Nabel, pg. 1945). Thus, given the state of the art, it is unclear how administration of suppressed lymphocytes would be beneficial for treating tumors or virus infection. Therefore, the instant specification must provide sufficient guidance, generally in the form of data, that would enable a medication comprising said lymphocytes for treating tumors or virus infection. However, the instant specification does not provide any evidence that lymphocytes in which heat shock proteins have been induced are beneficial for treating tumors or virus infection. The only working example provided in the instant specification involves injecting reserpine and heat treated lymphocytes into tumor bearing mice, which results in a modest survival benefit. Note that the instant claims only recite the use of reserpine in culture to induce heat shock proteins in lymphocytes. The claims do not require that the medication contains reserpine. Thus, this specific example involving a rodent tumor model does not provide sufficient support, i.e. is not commensurate in scope, with the antitumor/antiviral medication as claimed. Accordingly, the instant medication comprises only an idea and not an invention. Therefore, the medication as claimed must be considered highly unpredictable. Given said unpredictability, the medication of the instant claims must be considered to require undue experimentation for use as a treatment for tumors or viral infection.

Applicant's arguments, filed 6/7/06, have been fully considered but they are not persuasive.

Applicant argues that the rejection under 112 first

paragraph is obviated by the amendments to the claims. However, the instant claims still encompass a medication for treating tumors or viral infections comprising only lymphocytes in which heat shock proteins have been induced. Therefore, the rejection stands for the reasons set forth above. It is noted that some of the instant claims have been amended to include an antiviral/anti-tumor medication comprising lymphocytes and reserpine. While the instant specification does demonstrate a modest survival benefit in tumor bearing mice treated with said medication, this is not commensurate in scope with a medication for treating tumors and viral infections, as broadly claimed. The instant specification does not disclose any examples of the medication comprising reserpine and lymphocytes for treating any viral infection. In fact, the instant specification does not even disclose a mechanism of the anti-tumor effect that would correlate with the ability of the claimed medication for treating viral infection. Therefore, the medication as claimed must be considered highly unpredictable. Given said unpredictability, the medication of the instant claims must be considered to require undue experimentation for use as a treatment for tumors or viral infection.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 55-60 and 67-80 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamwanja et al., 1994, J. Anim. Sci.

As set forth previously, Kamwanja teaches a composition of PHA activated lymphocytes in which heat shock protein 70 (HSP70) has been induced by heating at 42 degrees Celsius for 12 h (see pg. 440 and 441). The instant claims are drawn to a antitumor/antiviral medication produced by activating lymphocytes and inducing heat shock proteins. This can be interpreted to mean a medication comprising said lymphocytes. The recitation of antitumor/antiviral medication has not been given any patentable weight, since it refers to an intended use of the composition of activated lymphocytes. "The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. See also MPEP § 2112. Furthermore, it is noted that claims 19-27 recite a process of producing activated lymphocytes in which heat shock proteins have been induced using *Rauwolfia*

serpentina/reserpine. However, the instant claims are drawn to a product (activated lymphocytes), and the patentability of the product does not depend on its method of production.

Applicant's arguments, filed 6/7/06, have been fully considered but they are not persuasive.

Applicant argues that Kamwanja et al. fail to disclose activation of lymphocytes with anti-CD3 antibody and/or IL-2, as claimed. This is not found persuasive, since the instant claims are drawn to a product, a medication comprising activated lymphocytes induced to express heat shock proteins. The patentability of a product does not depend on its method of production. Kamwanja et a. teach activated lymphocytes induced to express HSP70, and the reference thus meets the limitations of the instant claims.

7. Claims 55-60, 62, 64, and 66-80 are rejected under 35 U.S.C. 102(b) as being anticipated by Jin et al., 2000, Biotherapy.

As set forth previously, Jin teaches a composition comprising activated T lymphocytes in which HSP70 has been induced by a combination of heating to 42 degrees Celsius and reserpine culture (see abstract and Fig. 1).

Applicant's arguments, filed 6/7/06, have been fully considered but they are not persuasive.

Applicant argues that Jin et al. fail to disclose activation of lymphocytes with anti-CD3 antibody and/or IL-2, as claimed. However, it is noted that Kamwanja et al. do disclose activating the lymphocytes with anti-CD3 and IL-2 (see pg. 2 of the translation). Furthermore, Kamwanja et al. teach heating the lymphocytes for 40 minutes, and further teach a composition comprising the lymphocytes and reserpine (see pg. 3 of the translation).

8. The following are new grounds of rejection necessitated by Applicant's amendment.

9. Claims 55-80 are rejected under 35 U.S.C. 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed. This is a new matter rejection.

The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A) A medication for treating cancer and viral infections "comprising activated lymphocytes" (Claim 55 and dependent claims 56-80).

B) activated lymphocytes produced by activating with "anti-CD3 antibody and/or IL-2" (Claim 55, 79-80, and dependent claims 56-78).

C) a medication for treating cancer and viral infections comprising activated lymphocytes and further comprising "*Rauwolfia serpentine*" (Claims 61, 63, and 65).

D) a medication for treating cancer and viral infections comprising activated lymphocytes and further comprising "reserpine" (Claims 62, 64, and 66).

It is noted that applicant has not cited any support for the new limitation in the specification. A review of the specification fails to reveal support for the new limitations.

Regarding A), at page 2, the specification discloses antitumor and antiviral medications produced by activating lymphocytes. However, this is not sufficient support for a medication comprising activated lymphocytes, as now claimed. Furthermore, the instant specification on pg. 12 discloses activated lymphocytes that have an antitumor and antiviral effect. However this does not provide adequate support for a "medication" comprising activated lymphocytes, as now claimed.

Regarding B), at page 5, the specification discloses cultivation and proliferation of lymphocytes in the presence of IL-2 and anti-CD3. However, the instant specification does not appear to disclose "activating" lymphocytes with anti-CD3 "and/or" IL-2, as now claimed.

Regarding C), the specification on pg. 3 discloses that galenical extract of *Rauwolfia serpentina* can be used to activated lymphocytes to induce heat shock proteins for producing the antitumor and antiviral medications. The instant specification does not disclose using "*Rauwolfia serpentina*" at

all. Moreover, while the instant specification discloses on pg. 3 that a *Rauwolfia serpentine* extract alone may be the chief ingredient of the medication, the instant specification does not disclose a medication comprising activated lymphocytes and *Rauwolfia serpentina*, as now claimed.

Regarding D), the specification on pg. 3 discloses that reserpine alone may be the chief ingredient of the medication. However, the instant specification does not disclose a medication comprising activated lymphocytes and reserpine, as now claimed.

10. No claim is allowed.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy E. Juedes, Ph.D. whose telephone number is 571-272-4471. The examiner can normally be reached on 8am - 5pm, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/20/06
G.R. EWOLDT, PH.D.
PRIMARY EXAMINER

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July 18, 2006